Cardinal Chemical Fire, Columbia, Richland County, SC

POLREP #15, 08/26/02
The following actions were taken during the period of record:
As of August 23, 2002, a total of 1,129 stannic chloride cylinders were found in Plant 1 and Plant 2. Of this total, 985 cylinders were decommissioned, decontaminated and sold as scrap metal by the ERRS contractor. The majority of the 985 containers were empty, but a few of them contained enough stannic chloride residue to cause a reaction during the decommissioning process. Of the remaining cylinders, 54 cylinders were identified with recoverable product, 29 cylinders had residue or solids inside, and 61 one-ton cylinders need to be checked for residues.

While opening some one-ton cylinders, it was discovered that some of them were pressurized. These one-ton cylinders were left by Cardinal Chemical out in the direct sunlight causing them to be pressurized. In order to avoid the escape of HCL fumes from the site, it was decided to construct a cylinder opening room. The ERRS contractor constructed a cylinder room out of an existing building in Plant 2 and fabricated a metal cylinder box to be used for the opening of the 61 one-ton cylinders. The cylinder box has two valve openings a hatch on the top and is attached to a vacuum system and scrubber. Process starts by inserting the one ton cylinder in the box, sealing the box tight, and a drill bit is inserted through one of the valve openings in order to drill a hole into the cylinder. The cylinder is allowed to depressurized, stannic chloride is vacuumed from the box through a scrubber system, the box is opened and the cylinder bungs are opened. The cylinder is checked for residue or recoverable product. The cylinder is then removed from the box and the cylinder's drilled hole is sealed with a rubber cork.

In addition to the cylinder operation, the ERRS contractor finished with the inventory of the laboratory chemicals. More than 5,500 containers were found in the laboratory. Some of these containers were quality assurance samples and were bulked accordingly. The others are regular laboratory chemicals that will require further analysis before bulking.

During August 14, 15, 16, 2002, more than 108,000 gallons of waste waster from the above ground storage tank in Plant 1 were sent for disposal.

Planned Removal Actions
Continue opening cylinders and determine if they have recoverable product or residue inside of them.

Destroy empty cylinders with shearer and decon scrap metal.

Continue identifying and bulking laboratory chemicals. Continue developing a disposal plan.

Next Steps
Set up treatment system in order to recover stannic chloride from cylinders that contain recoverable product.

Continue with water management practices at Plant 1.

Key Issues
Continue coordinating with Reagens USA Inc. pertaining to the removal of vessels from Plant 2. Reagen USA Inc. bought some of the assets from the bank.

POLREP #13, 01/06/02-01/16/02
The following actions were taken during the period of record:

1. Site was demobilized for the Christmas and New Year holidays from 21-DEC-01 thru 05-JAN- 02. Personnel returned to the site by 7-JAN-02.

2. IT transferred dewatered sludge from a sludge-box roll-off into a second roll-off for transportation and disposal (T & D) purposes. On 10-JAN-02, Robbie D. Wood transported these two roll-offs to the R & D Landfill (Waste Management Facility) in Homer, GA for disposal. The R & D Landfill is currently acceptable to receive CERCLA off-site waste.

3. IT placed ten (10) press cake boxes, three (3) press cake totes, and six (6) cardboard drums, all of which contain contaminated solids, into a roll-off for future disposal.

4. Representatives of Reagens USA, Inc., met with the OSC on 10-JAN-02 to discuss future work plans at the Cardinal Chemical Site. Reagens acquired assets (tanks, vessels, other equipment) at the Cardinal Chemical Site from a recent auction held in Columbia, SC. Reagens plans to remove tanks and other equipment from the Site over the next few months. Reagens' work at the Site (which is expected to occur primarily in Plant #1) is dependent upon the submittal and approval of a comprehensive Work Plan and Health and Safety Plan.

5. The OSC met with SCDHEC officials on 10-JAN-02 to discuss future work plans at the Site. DHEC agreed to retain Nu-Way Inc. on a temporary basis if IT's corporate and financial status was unresolved. Nu-Way is a Columbia-based subcontractor for IT and has been involved with IT's work at the Site since EPA directed removal work began. Nu-Way will remain in a standby mode and will monitor and maintain wastewater levels in the reservoir and complete miscellaneous tasks as needed while EPA removal work is suspended at the Site.

6. The OSC demobed from the Site on 10-JAN-02 and the USCG demobed on 11-JAN-02. All IT personnel demobed and EPA removal operations were suspended on 16-JAN-02. The Site will remain closed indefinitely. Removal work is expected to resume following Reagens' work at the Site or if water levels in the red AST requires T & D. Three to four former Cardinal employees have been retained by Reagens at the Site for maintenance purposes.

FUTURE ACTIONS

Actions to be taken during the next reporting period:

1. Maintain control of wastewater in the reservoir and red tank at Cardinal Plant #1.

2. Review Reagens' work plans and health and safety plan.

POLREP #12, 12/07/01-12/21/01
The following actions were taken during the period of record:

1. Site will demobilize for the Christmas and New Year Holidays from 21-DEC-01 thru 06-JAN-02.

2. As of the close of business on 20-DEC-01, a grand total of 2,476,310 gallons of wastewater has been removed from the site. This grand total includes tank trucks and railcars. A total of 312 tank trucks of wastewater have been removed from this site totaling 1,678,310 gallons. A total of forty (40) railcars have left the site totaling 798,000 gallons.

3. Frac tank cleaning has been completed. To date, a total of eighty-seven (87) frac tanks have been cleaned and eighty-six (86) frac tanks have been removed from the site.

4. Cleaning of all totes in Plant #2 has been completed. Three hundred sixty-six (366) 275-gallon totes and thirty-four (34) 400-gallon totes were cleaned.

5. On 15-DEC-01 IT removed a box containing broken thermometers from a lab room in Plant #1. The floor of this room was vacuumed with a "merc-vac." Air monitoring with a Jerome was conducted following these actions and no mercury concentrations were detected.

6. OSC attended meeting with EPA-EAD, EPA-ERRB management, and GMAC attorney at the Tin Products Site, Lexington, SC on 13-DEC-01. Meeting held to discuss future work plans at the Cardinal Chemical Site and Tin Products Site. A private company is planning to bid on assets (tanks, vessels, other equipment) at the Cardinal Chemical Site. If all goes as planned, this company will begin to remove assets from the Cardinal Site in January 2002.

7. Hazard categorization of the poly-drums (101) staged in the Plant #2 warehouse has been completed.

FUTURE ACTIONS

1. Transportation and disposal of the poly-drums located in the warehouse at Plant 2.

2. Maintain control of wastewater in the reservoir and red tank at Cardinal Plant 1.

3. Clean the dewatering box at Plant 2 and have it removed from the site.

POLREP #11, 11/15/01-12/07/01
The following actions were taken during the period of record:

1. Site Demobilized for the Thanksgiving holiday on 20 Nov 01 and remobilized on 26 Nov 01.

2. As of the close of business on 03 Dec 01, a grand total of 2,458,310 gallons of wastewater has been removed from the site. This grand total includes tank trucks and railcars. A total of 312 tank trucks of wastewater have been removed from this site totaling 1,678,310 gallons. A total of thirty-nine (39) railcars have left the site totaling 780,000 gallons. Nine (9) tank trucks transported wastewater offsite during this period.

3. Ongoing frac tank cleaning continued with six (6) frac tanks cleaned this period. To date, a total of eighty-seven (87) frac tanks have been cleaned and eighty-two (82) frac tanks have been removed from the site.

4. On 29 Nov 01, a 30 cubic yard "roll off" container left the site filled with crushed steel drums, cut poly drums and cut poly pales; approx. 24 yards.

5. On 29 Nov 01, two (2) representatives of Peder Gulbrandsen, a company interested in buying some of Cardinal Chemical's equipment, were on-site collecting asbestos samples.

6. As of 30 NOV 01 all frac tanks on site have been cleaned.

7. On 30 November 2001an entry was made by the HSO & GST in the laboratory area at Plant 1 to determine the feasibility of using the lab for HAZ-CAT procedures. Air monitoring was conducted with PID/FID, O2 meter, and HCL meter.

8. Cleaning of the 400-Gallon and 275-Gallon totes continues. As of 05 December 2001 (26) 400-Gallon totes and (96) 275-Gallon totes have been cleaned.

9. On 03 December 2001 an entry team began to label shelves and various rooms of the lab in Plant 1 for inventory purposes.

10. Broken thermometers and mercury beads were discovered in a separate room of the Lab in Plant 1 on 06 December 01. Air monitoring with a Jerome meter was conducted on 07 December 01. Mercury concentrations ranged as follows: 0.319 mg/m³ inside the box that contained thermometers, 0.004 to 0.019 mg/m³ on floor, and 0.001 mg/m³ to 0.004 mg/m³ in breathing zone. Room was sealed pending mercury clean-up operations. An action level of 0.025 mg/m³ mercury will be used for confirmation purposes following clean-up with a mercury vacuum.

FUTURE ACTIONS

1. Continue cleaning 275-Gallon and 400-Gallon totes.

2. Maintain control of wastewater in the reservoir and red tank at Cardinal Plant 1.

3. Hazcat the poly-drums that were previously sampled for disposal purposes (see Polrep #8).

4. Clean up mercury inside room of Lab at Plant 1.

POLREP #10, 11/08/01-11/16/01
The following actions were taken during the period of record:

1. As of the close of business on 15 Nov 01, a grand total of 2,372,710 gallons of wastewater has been removed from the site. This grand total includes tank trucks and railcars. A total of 303 tank trucks of wastewater have been removed from this site totaling 1,632,710 gallons. A total of thirty-seven (37) railcars have left the site totaling 740,000 gallons. Fourteen (14) tank trucks transported wastewater offsite during this period.

2. Ongoing frac tank cleaning continued with twelve (12) frac tanks cleaned this period. To date, a total of eighty-three (83) frac tanks have been cleaned and sixty (60) frac tanks have been removed from the site.

3. On 09 Nov 01, a 30 cubic yard "roll off" container left the site filled with crushed 55 gallon steel drums.

4. On 13 Nov 01, four (4) representatives of Peder Gulbrandsen, a company interested in buying some of Cardinal Chemical's equipment, were on-site conducting appraisals for potential purchases.

5. 60,000 gallons of low pH wastewater from storage tanks in Plant 1, was transferred into frac tanks and neutralized. The neutralized wastewater was transferred to tank trucks, and transported off site for disposal.

6. On 9, 10, 14, and 15 Nov 01, wastewater in frac tanks located in Plant 1 was transferred to fourteen (14) tank trucks for transportation and disposal.

7. On 15 Nov 01, a 30 cubic yard "roll off" container left the site filled with crushed 55 gallon steel and poly drums.

8. Added valves and fittings to an existing 8-inch line that will allow wastewater to be transferred from the reservoir to the red storage tank in Plant 1. Tested line for leaks.

FUTURE ACTIONS
Actions to be taken during the next reporting period:

1. The site will de-mob for the Thanksgiving holiday on 20 Nov 01. Site work will resume on 26 Nov 01.

2. Clean the last remaining "T" shaped frac tank that had previously contained reservoir wastewater and has since been emptied.

3. Continue pumping low pH wastewater from storage tanks in Plant 1, into frac tanks for neutralization.

4. Maintain control of wastewater in the reservoir and red tank at Cardinal Plant 1.

5. Begin rinsing totes on site.

6. Hazcat the poly-drums that were previously sampled for disposal purposes (see Polrep #8).

POLREP #8, 10/13/01-10/26/01
The following actions were taken during the period of record:

1. Completed frac tank transfers to tank trucks and railcars. As of the close of day on 25 Oct 01, a grand total of 2,126,310 gallons of wastewater removed from site. This grand total includes tank trucks and railcars. A total of 280 tank trucks of wastewater have been removed from this site totaling 1,506,310 gallons. A total of (9) nine railcars have been removed from the site this period. Only (01) additional tank truck transported water offsite during this period.

2. Ongoing frac tank cleaning continued. (38) Frac tanks have been removed from the site.

3. On 22 Oct 01 an IT worker experienced heat exhaustion during tank cleaning operations. The worker did not require professional medical care and was able to return to work after a short rest period. IT conducted a safety brief dealing with heat stress as a result.

4. On 23 Oct 01 poly drums containing unknown liquids were removed from one of the box trailers located at the loading dock of the warehouse on Plant 2. One of the drums was found to have a leak and was subsequently over-packed. The drums were moved to the warehouse on Plant 2 and isolated pending sampling and hazard categorizing.

5. Drum rinsing and crushing continue. The empty steel drums and poly drums were tripled rinsed. The steel drums were crushed. The poly drums will be recycled by Cardinal Chemical or cut and disposed of.

6. On 23 Oct 01, (13) large stannic chloride cylinders were removed from one of the box trailers located at the loading dock of the warehouse on Plant 2. The cylinders were consolidated at the rear of Plant 2 property pending disposal arrangements.

FUTURE ACTIONS
Actions to be taken during the next reporting period:

1. Continue cleaning frac tanks that had previously contained reservoir wastewater and have since been emptied.

2. Maintain control of wastewater in the reservoir and red tank at Cardinal plant 1.

3. Continue daily meetings with Cardinal Chemical Plant Safety Officer concerning operations in Plant 1.

4. Start tote drum rinsing operations.

5. Sample and HazCat liquids in poly-drums removed from box trailer at loading dock in Plant 2.

POLREP #7, 10/06/01-10/12/01
The following actions were taken during the period of record:

1. Completed frac tank transfers to tank trucks and railcars. As of the close of day on 11 Oct 01, a grand total of 2,126,310 gallons of wastewater removed from site. This grand total includes tank trucks and railcars. A total of 279 tank trucks of wastewater have been removed from this site totaling 1,506,310 gallons. A total of (9) nine railcars have been removed from the site this period. An average of 10 tank trucks with an average of 55,000 gallons of wastewater is removed from the site daily. There are approximately 2 frac tanks remaining onsite that are not empty, these are leased by (IT) and used to empty out reservoir.

2. Ongoing frac tank cleaning continued. (30) Frac tanks have been removed from the site.

3. On 06 Oct 01, (IT) discovered numerous puddles of an unknown white material at Cardinal Plant I. (IT) and USCG investigated and found the material to be a Ph of 1 and came from an unknown source. No work was projected in the area and rain was expected for the weekend, which would rinse the material into the storm water sump, which is being transported off site for disposal.

4. On 08 Oct 01, the double stack tanks, which contained contaminated wastewater with a Ph of 1, were transferred into a frac tank and treated with 250 lbs. of Sodium Hydroxide pellets. The contents of the frac tank was then transferred to a railcar for transport offsite.

5. On 10 Oct 01, USCG discovered more puddles of unknown white material with a Ph of 1 at the Cardinal Plant #1. The OSC and (IT) SSO visited the site to evaluate safety concerns for contractor personnel. Held meeting with Cardinal Chemical chemist, Dr. White, to discuss recent incidents and future plans of cleaning, disposal, and selling of assets.

6. On 11 Oct 01, (IT) built containment berm with locally removed dirt and plastic sheeting to contain any water or residues from drum rinsing operations.

FUTURE ACTIONS
Actions to be taken during the next reporting period:

1. Continue cleaning frac tanks that had previously contained reservoir wastewater and have since been emptied.

2. Continue offsite transportation and disposal of storm water contained in 650,00 gallon red tank on Cardinal Plant I property.

3. Maintain control of wastewater in the reservoir and red tank at Cardinal plant 1.

4. Establish morning meetings which Cardinal Chemical Plant Safety Officer as to what work is to be performed at Cardinal Plant #1 each day and at what location within the plant.

5. Start drum rinsing operations with an estimated 940, 55 gal. drums.

POLREP #6, 09/27/01-10/05/01
The following actions were taken during the period of record:

1. Ongoing frac tank transfers to tank trucks and railcars. As of the close of day on 04 Oct 01, a grand total of 1,516,810 gallons of wastewater removed from site. This grand total includes tank trucks and railcars. A total of 210 tank trucks of wastewater have been removed from this site totaling 1,136,810 gallons. A total of (0) nine railcars have been

removed from the site this period. (9) Railcars arrived this week, they will be loaded by 10 Oct 01 and await transportation offsite with a total of 180,000 gallons of waste water, (04) railcars are full awaiting transportation with as additional 80,000 gallons of waster water. An average of 14 tank trucks with an average of 77,000 gallons of wastewater is removed from the site daily. There are approximately 18 frac tanks remaining onsite that are not empty.

2. Ongoing frac tank cleaning continued. (24) Frac tanks have been removed from the site.

3. On 28 Sep 01, ERRS responded to a leaking fixed tank on the Cardinal Chemical Plant II site which contained Reservoir water with a Ph of (1). Spill was contained using a dirt berm and the product was neutralized with Soda Ash provided by Cardinal Chemical Plant Chemist, Dr. White. Estimated spill amount to be 200 gallons.

4. On 29 Sep 01, loaded (8) tank trucks from frac tanks, confined space entry team continued to clean a frac tank that had contained brine water.

5. On 01 Oct 01, loaded (10) tank trucks from frac tanks and red tank, confined space entry team completed cleaning of brine tank and an additional frac tank.

6. On 02 Oct 01, loaded (11) tank trucks from frac tanks and red tank, confined space entry team completed cleaning (2) frac tanks. An ERRS confined space entry team person experienced a mild chemical burn while cleaning a frac tank. ERRS exited tank and was decontaminated and was administered onsite first aid with the use of mild soap and water. The burn is believed to have been caused by a break through in the outer Cyranex suit and allowed the cleaning solution (high concentrated degreaser) to enter the suit and make contact with skin.

7. On 03 Oct 01, loaded (16) tank trucks from frac tanks and red tank, confined space entry team completed cleaning (2) frac tanks. (2) USCG representatives were exposed to a release of Stannic Chloride while making a walkthrough of Cardinal Chemical Plant I. Both personnel experienced burning sensations of the nose and throat. Cardinal Chemical Plant personnel questioned as to what work was being performed onsite. Cardinal employees stated there was a holed tank that there were reacting off Stannic Chloride. Both USCG members transported, by their own capability, to Lexington Medical Center for evaluation as per USCG requirements.

8. On 04 Oct 01, loaded (16) tank trucks and (1) railcar from frac tanks, confined space entry team completed cleaning (2) frac tanks. Cardinal Chemical employees, including Dr. White, patched holed tank at Cardinal Chemical Plant I. Tank, which was patched, released again causing a cloud of white smoke. Cardinal employees placed a vacuum on the tanking via fixed piping to control the release of material through the hole in the tank.

FUTURE ACTIONS
Actions to be taken during the next reporting period:

1. Continue cleaning frac tanks that had previously contained reservoir wastewater and have since been emptied.

2. Continue offsite transportation and disposal of contaminated reservoir water from frac tanks on Cardinal Chemical Plant II and Red Tank on Cardinal Chemical Plant I.

3. Maintain control of wastewater in the reservoir and red tank at Cardinal plant 1.

4. Establish morning meetings which Cardinal Chemical Plant Safety Officer as to what work is to be performed each day and at what location of the plant.

POLREP #5, 09/08/01-09/14/01
The following actions were taken during the period of record:

The following actions were taken during the period of record:
1. Ongoing frac tank transfers to tank trucks and railcars. As of the close of day on 27 Sep 01, a grand total of 1,140,310 gallons of wastewater removed from site. This grand total includes tank trucks and railcars. A total of 145 tank trucks of wastewater has been removed from this site totaling 780,310 gallons. A total of (18) nine railcars have been removed from the site totaling an estimated 360,000 gallons of wastewater. (06) railcars are full awaiting transportation. An average of 7 tank trucks with an average of 37,000 gallons of wastewater is removed from the site daily. There are approximately 27 frac tanks that are not empty remaining.
2. Ongoing frac tank cleaning continued. (17) Frac tanks have been removed from the site and (01) was returned. A Sprintank owned frac tank was returned to this site due to residue that was observed inside the tank after the tank was removed from the site. The tank was cleaned by IT personnel and removed from the site by Sprintank on 13 Sep 01. Sprintank also reported that a handvalve from Sprintank frac tank 216 had broken off while at this site. Each tank will now be photographed and inspected by the driver with written documentation to support their findings for each tank leaving this site.
3. Cardinal Chemical notified EPA that employee salaries will no longer be funded starting October, 5, 2001. Cardinal Chemical maintains (05) employees who are preparing Plant 1 for closure.
4. On 18 Sep 01 samples were taken from tanks SPVP4663L, I308, SFVP4222L, FM1280 and the sludge box. These samples were mostly solids (sludge) and will have Organotins analysis performed. (02) of the samples broke during shipping and the tanks were resampled. The (02) re-samples were sent to Data/Analysis Technologies laboratory, Plain City, Ohio, on 20 Sep 01. 5. On 20 Sep 01 a trailer mounted power washer was brought to the site to assist with cleaning frac tanks that previously contained brine water. A thick layer of sludge was found on one of the brine frac tanks and is especially hard to clean. The trailer mounted cleaning unit will be only be used until the hard to clean tanks are complete.
6. On 21 Sep 01 an estimated 14,000 gallons was pumped from the reservoir to frac tanks on plant 2 to alleviate pressure on the containment wall of the reservoir.

7. On 24 Sep 01 Timothy Ross, Reagens USA Inc., Laporte, TX was on site to inspect tanks and associated equipment for purchase. Reagens USA, Inc. has an approved financially backed contract to obtain a large percent of the assets from Cardinal Chemical plant 1 and plant 2. The assets that are to be purchased by Reagens will be removed from the site and transported to locations in Houston, TX within 120 days. Mr. Ross also indicated that Reagens USA is interested in leasing the property of plant 2 for a one-year lease during which time the wax processing units will be removed.

FUTURE ACTIONS
Actions to be taken during the next reporting period:
1. Clean frac tanks that previously contained the brine wastewater.
2. Continue offsite transportation and disposal of contaminated reservoir water and brine wastewater. 3. Maintain control of wastewater in the reservoir and red tank at Cardinal plant 1.
4. IT to arrange for additional source of tank trucks to expedite wastewater removal.

POLREP #4, 09/08/01-09/14/01
The following actions were taken during the period of record:

1. On 9/08/01, IT and Gulf Strike Team held confined space entry safety meeting and confined space entry emergency drill. Discussed new ideas and ways of emergency retrieval in the event of downed personnel during confined space entry tank cleaning operations.

2. Ongoing frac tank transfers to tank trucks completed this day with 33,000 gallons of wastewater removed from site.

3. On 9/10/01, treated tanks with low pH with sodium hydroxide pellets to raise the pH prior to offsite disposal. Frac tank transfers are ongoing, total of 38,500 gallons of wastewater transferred offsite this date.

4. Frac tank cleaning operations consisting of confined space entries ongoing.

5. On 9/11/01, discussed new and better alternatives for personnel decontamination when exiting the frac tanks following confined space cleaning operations. NES Industrial Services retrieved 3 emptied and cleaned frac tanks from the site to be returned to their inventory.

6. Frac tank cleaning operations and frac tank transfers to tank trucks ongoing.

7. On 9/12/01, commenced treatment of low pH frac tank. Frac tanks are moved around site so IT technicians can gain access for tank cleaning operations.

8. On 9/13/01, Nine (09) railcars arrived at the site. The cars were positioned on the outer spur in one line. The four (04) railcars that were previously located at the site remain on the inner spur. Representatives from Innovative Waste Management arrived on site to

assist in the inspection of the railcars. Setup for pumping is ongoing and will start once the railcars are inspected.

9. Frac tank cleaning and frac tank transfers to tank trucks ongoing. 10. Total of 184,000 gallons of wastewater removed from site this week. Total of 308,500 gallons of wastewater removed from site to date. Both of these totals are estimates based on the carrying capacity of the trucks and their load rates. These totals will be updated as the manifests are validated.

10. Total of 6 emptied and cleaned frac tanks have been removed offsite to date.

FUTURE ACTIONS
Actions to be taken during the next reporting period.

1. Circulate caustic soda in frac tanks containing the brine wastewater stream to raise the pH prior to disposal.

2. Continue offsite transportation and disposal of contaminated reservoir water and brine wastewater.

POLREP #2, 08/27/01-08/31/01
The following actions were taken during the period of record:

1. The EPA and the ERRS contractor, IT Corp. continued site setup activities.

2. EPA received draft letter from Baker Tanks regarding the cost share arrangement for the off site transportation and disposal of the frac tank wastewater. Baker extended an offer to EPA to pay for transportation and disposal of 18 of the 35 Baker tanks containing wastewater.

3. On 8/28/01, representatives from the U. S. Coast Guard Gulf Strike Team out of Mobile, Alabama arrived on site. The Strike Team will provide the EPA with technical assistance and Federal oversight throughout the duration of the removal.

4. On 8/28/01, the OSC and a representative from the EPA's Environmental Accountability Division (EAD), met with representatives from the Cardinal Chemical and GMAC to discuss future site operations.

5. IT Corp. began taking pH readings of each of the 85 frac tanks containing the wastewater.

6. IT Corp. began managing wastewater from the reservoir at plant 1. A high water level in the reservoir, and rain in the forecast prompted the need to draw down the reservoir. Approximately 3,000 gallons of reservoir wastewater was transferred into a frac tank staged at plant 2. An additional 5,000 gallons of reservoir water was temporarily

transferred to an empty storage vessel at plant 1. That water will eventually be transferred to a frac tank for ultimate offiste transportation and disposal.

7. On 8/30/01, an additional 7,500 gallons of reservoir water was transferred via vacuum truck to a frac tank. Strike Team began photo documentation of plant 2.

8. On 8/31/01, IT Corp. began sampling all frac tanks at plant 2. Strike Team conducted air monitoring, photo documentation, and frac tank inventory during sample operations. IT Corp. received a truck of palletized sodium hydroxide onsite for raising the pH in the frac tanks. IV.

FUTURE ACTIONS
Actions to be taken during the next reporting period:

1. Circulate caustic solution in frac tanks containing the brine wastewater waste stream to raise the Ph prior to disposal.

2. Begin offsite transportation and disposal of the contaminated storm water, reservoir water, and brine wastewater.

3. Continue re-routing clean storm water runoff off of the property.

4. Conduct lab packing and subsequent off site disposal of laboratory chemicals.

5. Conduct inventory, sampling, and ultimate offsite transportation and disposal of remaining waste streams stored in drums, cylinders, and other containers or vessels.

POLREP #1, 08/20/01
BACKGROUND

The Cardinal Chemical Company Site is located at 2010 South Beltline Blvd. in Columbia, Richland County, South Carolina. Cardinal has been involved in the manufacturing and research of organic chemicals since the early 1950's. The primary product line consists of organic tin stabilizing compounds (organotins) which are used in the production of polyvinyl chloride (PVC).

In February, 2000, a spill occurred at a company which utilizes the same organotin compounds as Cardinal, in the neighboring town of Lexington, South Carolina. Organotin compounds are extremely toxic to aquatic life at low concentrations. The spill severely impacted the Lexington POTW and resulted in a large fish kill. In September, 2000, as a result of the spill and subsequent fish kill in Lexington, the City of Columbia announced that they would ban all tin based products from entering the Columbia Metro Wastewater Treatment Plant . Subsequently, the City of Columbia discontinued Cardinal's discharge permit for their storm water which contains organotin compounds.

Since their discharge permit was revoked, Cardinal has accumulated approximately 2.2 million gallons of organotin contaminated storm water. The water is stored in a 650,000 ast, rail cars, smaller vessels, and 82 (20,000 gallon each) frac tanks. With limited space available for any additional storm water, a heavy rain could overwhelm the remaining capacity of the tanks and the contaminated storm water would be released into the surface water drainage pathways and eventually into Gills Creek adjacent to the site.

In June, 2001 Cardinal informed the SCDHEC that they were planning to cease all operations at the Site at the end of the month. The secured creditor, GMAC, remained on site in an attempt to salvage any remaining items of value from the property. On August 10, 2001 the SCDHEC issued Cardinal Chemical an order to cease and desist, at which time the SCDHEC took control of the property. The SCDHEC mobilized with their contractor to secure the property and assess the hazards. The SCDHEC and their contractor initiated a storm water management strategy which included offsite transportation and disposal of the wastewater in order to maintain sufficient freeboard in the large ast. The SCDHEC then referred the Site to EPA's Emergency Response and Removal Branch.

ACTIVITIES DURING REPORTING PERIOD

The following actions were taken during the period of record:

1. The EPA and the ERRS contractor, IT Corp.mobilized to the site on August 8, 2001 to initiate removal activities.

2. EPA, SCDHEC, IT, and Cardinal representatives conducted a kickoff meeting and site walk through at plant 1 and plant 2.

3. IT Corp. began preparations to manage the storm water in the event of heavy rainfall, and initiated sub contract arrangements for the offsite transportation and disposal of the wastewater.

FUTURE ACTIONS

Actions to be taken during the next reporting period:

1. Update frac tank inventory, to include collecting pH readings on all 82 tanks.

2. Circulate caustic solution in frac tanks containing the brine wastewater waste stream to raise the pH prior to disposal.

3. Begin transportation and disposal of the contaminated storm water, reservoir water, and brine wastewater.

4. Continue re-routing clean storm water runoff off of the property.

5. Conduct lab packing and subsequent offsite disposal of laboratory chemicals.

6. EPA will meet with GMAC representatives on 8/28/01 to discuss future site operations.